IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

CORE WIRELESS LICENSING S.A.R.L.,	)	**CIVIL ACTION NO. 6:12-CV-100**
Plaintiff,	)	**JURY TRIAL DEMAND**
vs.	)	
APPLE INC.,	)	
Defendant.	)	

CORE WIRELESS LICENSING S.A.R.L.'S
REPLY CLAIM CONSTRUCTION BRIEF

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I. U.S. PATENT 6,792,277 ('277 PATENT)

A. Term 12 – "One or More Core Networks"

Apple misreads the meaning of the term "one or more core networks" by conflating the invention with the prior art. An understanding of the prior art and the problem to be solved by the invention shows that "one or more core networks" as used by and defined in the patent means multiple core networks, or one core network with multiple services.

The inventors made the invention during the transition from 2G to 3G systems. In a 3G (or UMTS) system, a cell phone and its associated "access network AN can be connected to many different core networks." '277 patent at 1:53-56. The inventors knew that it would be important in the UMTS system to be able to send control signals to two or more core networks in rapid succession, for example, when the cell phone moved to a new cell and had to tell each core network its new location. *See id*. at 2:33-36 ("The mobile station may then, when more than one location area changes, have a need to carry out several location updates over a short period of time"). The only way to do this in the prior art was to release the entire connection, and to re-establish an entirely new connection to the second core network. *See id*. at 2:42-47 ("If the mobile station is to carry out location update to another core network, … the radio connection must be released and re-established between different location updates").

The invention maintains the connection between successive signallings. *See id*. at 2:42-65 ("The idea underlying the invention is that the connection between the access network and the terminal is not released between substantially successive control signallings"). The inventors knew that, in the prior art GSM system, successive signallings with a *single* core network could be maintained by means of what was called a "follow on proceed request." *See id*. at 7:45-53 ("A 'follow on proceed' function has been standardized in the GSM system … for indicating the request for maintaining the radio connection to the mobile switching centre"). But the idea (and means) of maintaining the connection for *multiple* core networks was not known in the prior art GSM system. *See id.* at 7:45-62 (discussion of maintaining GSM connection to a single "mobile switching centre," which is a term used for a circuit-switched core network in the GSM system).

With this background, Apple's error is clear. The invention does *not* cover maintaining a connection to a single core network with a single service. The '277 patent explains that this was in the GSM prior art and distinguished it from the invention. The patent explicitly states that the purpose of the invention was to solve the problem of successive connections to multiple core networks or services. *See id*. at 3:66-4:16. The patent states that the invention can be applied in two circumstances: first, when "an access network is connected to at least two core networks," and second, "with only one core network *integrated to be responsible for several different services*, such as circuit- and packet-switched connections."

Apple incorrectly argues that these two paragraphs are only exemplary because they use the word "can." Apple misses the broader meaning of the text by focusing on a single word. The specification states that the invention "can be applied" to at least two core networks, and it "can also be applied to" a single core network having multiple services. Those are the *only possibilities* that are disclosed in the specification as the invention. They are not exemplary; they are a statement of the invention. The only other logical possibility is to apply the invention to *one* core network with only *one* service, and that possibility is excluded by the patent specification, which states that this is in the GSM prior art and distinguishes it from the invention. By insisting on so-called "plain meaning," Apple is attempting to leave open the possibility of reading the claim to cover what the patent clearly said was not the invention.

B. Terms 14 and 15 – "Carrying Out the Plurality of Control Signalings . . ." and "Transmit[ting] a Request for Maintaining . . ."

Apple also argues that the text in column 7 beginning at line 45 disclaims the "follow on proceed function" and proposes a construction of these terms that would exclude infringement of any accused device that uses a function by that name. Again, this is a misreading of the patent caused by taking a single statement out of context. What the inventors disclaimed in this text is the GSM prior art, in which a "follow on proceed" request was used to maintain a connection with a single core network having a single service (i.e., the "mobile switching centre"). The inventors clearly stated that this was the GSM prior art, not their invention. *See* '277 patent at 7:59-67. The point of the invention was maintaining a connection between multiple core

networks or a core network with multiple services, and the follow-on proceed when used in the GSM prior art, did not accomplish this. There is no magic in the name – what was called a "follow on proceed" in the prior art might be quite different in function, operation, and structure to what that name refers to in a current cellular system.

C. Term 13 – "Control Signalling"

The term "control signalling" is clear and unambiguous on its face to one of ordinary skill in the art – it is a message or messages used for control, i.e., control message(s), which Apple admits is correct. *See* D. Br. at 4. Apple, however, proposes to impose additional improper and extraneous language: "the control messages over a given signalling connection between a terminal and a core network." Apple's construction will not help the jury understand the actual words of the claim terms – "control" and "signalling" – because Apple circularly uses both words in its proposed definition. Apple's definition is further flawed because it defines "control signalling" in terms of a "signalling connection," which Apple leaves undefined.

As best we can tell, Apple appears to propose that "control signallings" be limited to control messages associated with a particular (undefined) "signalling connection." The primary justification Apple gives for this construction is that the jury will supposedly need to count the number of control signallings, and it will not know how to do so without Apple's construction. *See* D. Br. at 5, 7. But the claim that recites the "counting" limitation is claim 6 (which recites "the access network *counts* the number of control signallings …"). Core Wireless does not, and never has, asserted claim 6 against Apple. Because Apple provides no sound reason why the Court should accept its proposal, the Court should reject these unnecessary and unsupported limitations and simply allow the jury to use its own understanding of the term as its guide, or, alternatively, use the common sense definition provided by Core Wireless.

II. U.S. PATENTS 7,383,022 ('022 PATENT) AND 7,599,664 ('664 PATENT)

A. Terms 23 a-d – "Modify[ing] the Default Forgetting Factor"

Apple incorrectly argues that "modifying the default forgetting factor" cannot include "replacing" the default forgetting factor because the patent specification discusses "replacing" separate from other types of modifications. Apple is wrong for several reasons. First, Apple's

interpretation is contrary to the plain meaning of the word. The plain and ordinary meaning of modifying something is to change it, and changing something includes, among other things, replacing it. P. Br. at 16. To overcome this, Apple must show a clear intent on the part of the inventors to define the term in the special, non-standard way Apple advances.[1] But Apple fails to show any evidence in the intrinsic record that the inventors intended the term "modify" to be mutually exclusive of the term "replace."[2] In fact, the specification uses many different terms to describe modifying the default forgetting factor: modify ('022 patent at 3:25, 7:3); replace (*id*. at Fig. 4; 1:57, 3:29, 7:3); adjust (*id*. at Fig. 4, 2:2, 6:48); change (*id*. at 4:11); refine (*id*. at 6:52, 6:64; 7:17); revise (*id*. at 6:65); and correct (*id*. at 7:17). Nowhere in the specifications is there evidence for the theory that the inventors intended to redefine the word "modify" to mean "modify in any way except replace."

Nor does the file history show that "modify" was intended to be an alternate to "replace." Apple's only file history argument is that proposed claim 13 of the abandoned '952 application used the word "modify," and claim 14 used "replace." But there is no evidence that the applicants intended the two terms to be mutually exclusive alternatives; it is just as likely that claim 13 was intended to be the broader claim covering any type of modification, and claim 14 covered the special case of replacing.[3]

Further, the additional 15 words "by adjusting it upwards or downwards by an amount determined by the application of a mathematical computation" should not be part of the construction of the term "modify."[4] First, the language "by adjusting it upwards or downwards" is used in describing the preferred embodiment, and should not be a claim limitation. *See* '022

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[1] *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365, 1367-68 (Fed. Cir. 2012) (holding the plain meaning of the term "attached" encompasses either an external or internal attachment because there was no clear and explicit intent to redefine this term).

[2] *See id.* at 1367 (using "attached to" and "embedded within," separately in different embodiments "does not rise to the level of either lexicography or disavowal.").

[3] *See id*. ("The fact that the specification uses the two terms "attached" and "embedded" as alternatives does not require [finding of disavowal] … The plain and ordinary meaning of embedded, 'attached within,' is narrower than 'attached.'").

[4] Apple has apparently now decided to remove an eight-word phrase "based on the received indication of signal quality" from its original definition.

patent at 6:49-54. Second, the phrase "application of a mathematical computation" should be rejected as it is not supported by the claim language, specification, or the prosecution history.[5]

The *ACCO Brands* case[6] cited by Apple is inapplicable here because the patent in that case was a divisional of a parent application that was filed in response to a restriction requirement. By definition, a divisional patent claims an "independent and distinct" invention. *See* 35 U.S.C. § 121. Here, the '664 patent is a continuation of the '022 patent, not a divisional. [7]

III. U.S. PATENT 6,978,143 ('143 PATENT)

A. All Disputed Terms in the '143 Patent: "Control Unit"[8]

Apple's descriptions of the corresponding structure in all disputed claim terms are wordy, redundant, and improper. Apple has provided the Court with no explanation as to why it finds it necessary or proper to repeat or paraphrase language from the function of the claims in its identification of the structure. Moreover, in every case, Apple adds the language "in accordance with the algorithms" and then identifies alleged algorithms. Apple justifies this language by asserting that one of the identified structural elements, the control unit, is purportedly a general purpose processor, and therefore requires the disclosure of algorithms under the *WMS Gaming* case.[9] This language is improper because Apple has provided no evidence that the control unit is a general purpose processor. Apple's primary argument comes from the statement in the specification that "the control unit 19 that controls the other blocks executes the block control functions according to special software." '143 patent at 7:26. This is a technical, not a legal, statement, and has nothing to do with the holding of *WMS Gaming*, as Apple argues. The word "special" was meant to say that a control unit has to control the functions of sending, receiving, and comparing differently, not that the control unit has to be programmed in a special way. In

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[5] *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1318-19 (Fed. Cir. 2005) (en banc).
[6] *ACCO Brands, Inc. v. Micro Sec. Devices, Inc.*, 346 F. 3d 1075, 1079 (Fed. Cir. 2003).
[7] The parties have now agreed that Term 24 a-e ("[Calculate/calculating] [a/the] Default Forgetting Factor Based on a Parameter Received") shall be construed as "calculating a default forgetting factor using a received parameter as input."
[8] Core Wireless disagrees with Apple that "control unit" is part of the structure for the disputed Term 19 ("means for storing said threshold value of the channel selection parameter").
[9] *WMS Gaming, Inc. v. International Game Tech.*, 184 F.3d 1339 (Fed. Cir. 1999).

fact, the examples in the specification show that the control unit controls these functions in the ordinary way. *See, e.g., id.* at 7:1-3 ("A control unit controls the reception blocks mentioned above in accordance with a program stored in the unit."); 7:12-13 ("The control unit 803 controls also these processing and transmission functions.").

Furthermore, even if the disclosed processor were held to be a general purpose processor, Apple fails to meaningfully distinguish *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir.2011), a case analogous to this case, where the court held that functions such as "'processing,' 'receiving,' 'and 'storing' . . . can be achieved by any general purpose computer without special programming." There is no special programming involved in the '143 patent; thus, it was not necessary to disclose more structure than the [DH1]processor that performs those functions.[10] In addition, for the majority of terms at issue for this patent (Terms 17, 18 and 21), a control unit is only part of the structure that includes "[many] computer components, [which] in the aggregate, [] do not amount to a 'general purpose computer.'"[11]

B. Terms 17 and 20: "Means for Sending. . . Using a Selected Channel…" and "Means for Comparing for Basis of Said Channel Selection"

Apple argues these terms *implicitly* require that channel selection be performed solely by the cell phone because of examples discussed in the specification. But the cited examples do not show that every aspect of the channel selection can ***only*** be performed by the cell phone. First, it is well established that it is improper to import limitations from the specification into the claim.[12] Second, the specification and the prosecution history show examples where, in addition to the cell phone, the network is also involved in making the channel selection. *See* '143 Patent at 6:29-31 ("The RRC layer takes care of the packet resource allocation signaling across the radio interface …"); 6:37-39 ("If the decision is to allocate a DCH, the MAC layer informs the RRC layer which takes care of the capacity request signaling across the radio interface[.]"); D. Br.,

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[10] *Id.*

[11] *See e.g., Sipco, LLC v. Abb, Inc.*, CIVIL ACTION NO. 6:11-CV-0048 LED-JDL, 2012 U.S. Dist. LEXIS 106659, at *83-118 (E.D. Tex. July 30, 2012) (Love, J.) (construing structures for different means, all of which include a controller and additional components, to not require an identification of an algorithm).

[12] *See Phillips*, 415 F.3d at 1318-19.

Mueller Ex. E, [Applicants' Reply Brief to Board of Patent Appeals, filed Dec. 8, 2003] at 4-5 (explaining that a mobile "may conduct a ***general selection***" between dedicated and common channels, but that "it's well-grounded to let [the network] at least ***partially affect*** [the mobile's] decision on the used delivery technique.") (emphasis added).

Third, as discussed in Core Wireless' opening brief, Apple's construction violates the doctrine of claim differentiation. Independent claim 17 does not include the "means for making said channel selection" limitation that is present in the dependent claim 18, and including this limitation in claim 17 would make the two separate claims equal in scope. Apple's argument that here, as in *Laitram*,[13] "the claim differentiation cannot override the requirements of 35 U.S.C. § 112(6) by expanding a claim beyond the disclosed structures" because "[a]ll disclosed structures in the '143 patent require selection within the mobile station" is inapposite. D. Br. at 18. As explained above, Core Wireless is not expanding claims beyond the disclosed structures.

C. Term 20b: "Means for Comparing"

Independent claim 17 and dependent claim 19 both contain a "means for comparing" limitation. Apple incorrectly argues that this means the "comparing" step must be done twice in claim 19. The "means for comparing" in claim 17 is broader than in claim 19. The term in claim 17 includes a comparison involving either variable (dynamic) or invariable threshold values. *See* '143 patent at 5:62-67 (disclosing both types of threshold values). Claim 19 applies only to dynamic threshold values. The purpose of claim 19 was to provide a narrower "means for comparing," not to provide a second "comparing" step. This is supported by the specification, which discloses only one "comparing" step in all the disclosed embodiments. Apple's construction of claim 19 therefore excludes the preferred embodiment and is highly disfavored.[14]

[13] *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991).
[14] *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (a claim construction that "excludes the preferred embodiment is rarely, if ever, correct.").

IV. US PATENT 6,788,959 ('959 PATENT)

A. Term 9: Dynamic Configurations

Apple argues that the term "dynamic configuration" should be defined as a configuration that is provided "at or near the time of handover." This limitation is simply not the characteristic that defines the term in the '959 patent. The '959 patent defines "dynamic configuration" in contrast to the term "static configuration." Static configurations are already known by and stored in the device and need not be communicated to the cell phone via broadcast. *See id.* at 6:20-23; 6:58-62; 7:22-47; 12:63-13:1. On the other hand, the patent says that dynamic configurations are "additional" parameters that "are not a priori known to the mobile station and so must be communicated." *See id*. at 3:2-3; 3:22-23; 6:18-23. The patent is even more specific about exactly what the term means – the patent states that those configurations communicated to the cell phone by being broadcast on SIB 16 "***define*[]** dynamic configurations."[15] *See id*. at 1:66-2:6. That definition is the basis of Core Wireless' proposal.

Apple's proposed definition completely misses these essential characteristics of "dynamic configurations." The sentence quoted by Apple in support of its proposal says that, "unlike static preconfigurations, the sets of preconfiguration parameters making up a dynamic configuration … must be provided to the mobile station dynamically, i.e., at or near the time of handover of the mobile station from GSM to UTRAN." *Id*. at 1:52-57. This sentence says that these parameters ***must*** be provided "***dynamically***" – unlike static preconfigurations, dynamic configurations must be sent by the base station. It does *not* say they *must* be provided "at or near the time of handover" – that phrase is a parenthetical and is merely exemplary.

Contrary to established case law, Apple attempts to contradict the intrinsic evidence of the meaning of the term with extrinsic evidence. Apple cites to textbooks that state that certain SIBs, including SIB 16, have "more static parameters," whereas other SIBs are "more dynamic."

[15] Citation to sec. 13.7 of the 25.331 standard in the patent (1:59-2:1) is not misplaced as Apple suggests. Section 13.7 defines static preconfigurations ("default configurations") but also explains that "default configurations differ from pre-defined configurations." Muller Ex. H at 685. Elsewhere, the patent and the 25.331 standard explain that "predefined configurations" are dynamic configurations that are broadcast on SIB 16. *See id.* at 55; '959 patent at 1:66-2:6.

The references refer to dynamic as "fast changing" (Mueller Ex. I at 116) or "frequently changing" (Mueller Ex. J at 139), in contrast to those that are "*more* static" (i.e. change relatively *less frequently*). This has nothing to do with the way the terms are used in the patent – for example, a static configuration as defined by the '959 patent is one that is hardcoded on the cell phone and therefore does not change at all. It is the patent's definitions that must govern.[16]

V. US PATENT 6,674,860 ('860 PATENT)

A. Term 2: "Means for decrypting"

Apple is wrong when it states that "the ***only*** structure that the specification describes for decrypting data is the encryption block of the intelligent module SIM." D. Br. at 25. The patent states specifically that decryption can take place outside the intelligent module "[i]f confidentiality is not required." '860 patent at 6:61-63. The patent then states that "the location or other service data and the decryption key…are processed ***in a control unit 903*** or intelligent module 940." *Id*. at 8:24-27. Likewise, the patent points to the "logical blocks 312-314" as a location where decryption may take place. *Id*. at 6:57-61. The control unit and logical blocks are alternate embodiments. Apple also argues that the control unit cannot be an alternative embodiment because no algorithms are disclosed. That is incorrect on two grounds. First, Apple presents no evidence that the disclosed control unit is a general purpose processor subject to the *WMS Gaming* analysis such that identification of algorithms are required. Even if they were, however, what is disclosed in the patent is fully sufficient to meet that analysis in the case of a common, known technology such as encryption and decryption of data in a cellular system.[17] This technology was well known and described in detail and in the standards, as well as in a text

[16] *Phillips*, 415 F.3d at 1317.

[17] *See, e.g., Aristocrat Techs. Austl. Pty Ltd. v. Multimedia Games, Inc*., 266 Fed. Appx. 942, 947-48 (Fed. Cir. 2008) (reversing summary judgment of invalidity) ("*WMS Gaming*…does not require that a particular algorithm be identified if the selection of the algorithm or group of algorithms needed to perform the function in question would be readily apparent to a person of skill in the art"); *see also S3 Inc. v. nVidia Corp.*, 259 F.3d 1364 (Fed. Cir. 2001) (means plus function claim not indefinite for failure to disclose details of well-known structure that performs a well-known function).

cited in the '860 patent itself.[18] The description of encryption and decryption found at 3:56-65 and 8:24-30 are more than sufficient to meet the requirements of means-plus-function law.

B. Terms 1, 3, 6: "Means for Receiving"

Apple tries to import unnecessary restrictions into the definition for these terms by including elements that are tangential to, but not required for, the claims. *See* P. Br. at 26 and n.42. Further, an algorithm need not be identified. [19, 20]

C. Terms 4, 6-8: Logical Blocks

The logical block embodiments identified by Core Wireless perform the functions of receiving encrypted information (term 4) and decryption keys (terms 6-7). Similar to the encryption block identified as structure by both parties in terms 2 and 5, the receiving blocks also disclose adequate structure and do not require an algorithm to avoid indefiniteness.[21]

VI. U.S. PATENT NO. 7,804,850 ('850 PATENT)

Apple takes a simple, straightforward phrase (predetermined period), argues it is ambiguous (without explaining the ambiguities), then advocates for a confusing definition based on a strained reading of the claims. Apple's argument that a predetermined length would not have predetermined starting or ending points is counterintuitive and not supported by the patent. *See, e.g.* Figs 3-7 (identifying virtual TTIs with fixed length and start/stop points).[22] This term needs no construction and Apple's contorted construction should be rejected.

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[18] M. Mouly, M-B. Pautet, *The GSM System for Mobile Communications* (1992) (cited at 6:5-6).
[19] Similarly, term 8 does not require a CPU or algorithm.
[20] *See e.g., Sipco*, 2012 U.S. Dist. LEXIS 106659, at *83-84; *Aristocrat*, 266 Fed. Appx. at 947-48. Even assuming an algorithm were required, Apple's definition improperly relies on preferred embodiments. For Term 1, Apple tries to restrict the service broadcast to the SMS broadcast of location information disclosed in Figure 6. However, the patent clearly covers broadcasts of services other than location. *See* 9:47-59; 10:1-3. In the event the court finds an algorithm is necessary, a more appropriate algorithm would be what is described in the patent at 9:47-59 and 10:1-3. For terms 3 and 6, Apple would limit reception of the keys to periodic location updates (FIG 4) occurring when entering a new visitor location register VLR (FIG 8). A more appropriate algorithm, should the court find one necessary, would be FIG 5, and 7:10-25; 10:1-3.
[21] *In re Katz*, 639 F.3d at 1316 (no algorithm required for means for "receiving").
[22] The "for the case where…" clause does not restrict the predetermined period. As a matter of pure grammatical interpretation, a predetermined period may exist independently of whether or not conditions are met that require a packet to be transmitted at that predetermined period.

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Respectfully Submitted,

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Dated: September 19, 2013

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